Initial Operational Capability (IOC) 2015 – 2030 Summary

The table below summarizes NASA's vision of the environmental and performance goals for future supersonic commercial vehicles. These goals have been chosen to define increasingly capable supersonic aircraft that are compatible with a greener world from the perspectives of noise, emissions and energy usage (fuel efficiency). These parameters and goals are based on NASA's internal estimates of the required future capabilities of these vehicles. The N+1, N+2 and N+3 designations are related to the estimated Initial Operational Capability (IOC) dates for these increasingly capable vehicles.

NASA's Technology Goals for Future Supersonic Vehicles

	N+1 Supersonic Business Class Aircraft (2015)	N+2 Small Supersonic Airliner (2020)	N+3 Efficient Multi-Mach Aircraft (Beyond 2030)
Environmental Goals			
Sonic Boom	65-70 PLdB	65-70 PldB	65-70 PLdB low boom flight 75-80 PldB unrestricted flight
Airport Noise (cum below stage 3)	10 EPNdB	10-20 EPNdB	20-30 EPNdB
Cruise Emissions (Cruise NOx g/kg of fuel)	Equivalent to current Subsonic	< 10	< 5 & particulate and water vapor mitigation
Performance Goals			
Cruise Speed	Mach 1.6-1.8	Mach 1.6 -1.8	Mach 1.3 - 2.0 low boom flight Mach 1.3- 2.0 unrestricted flight
Range (n.mi.)	4000	4000	4000 - 5500
Payload (range of passenger capacity)	6-20	35-70	100 - 200
Fuel Efficiency (passenger-miles per lb of fuel)	1.0	3.0	3.5 – 4.5